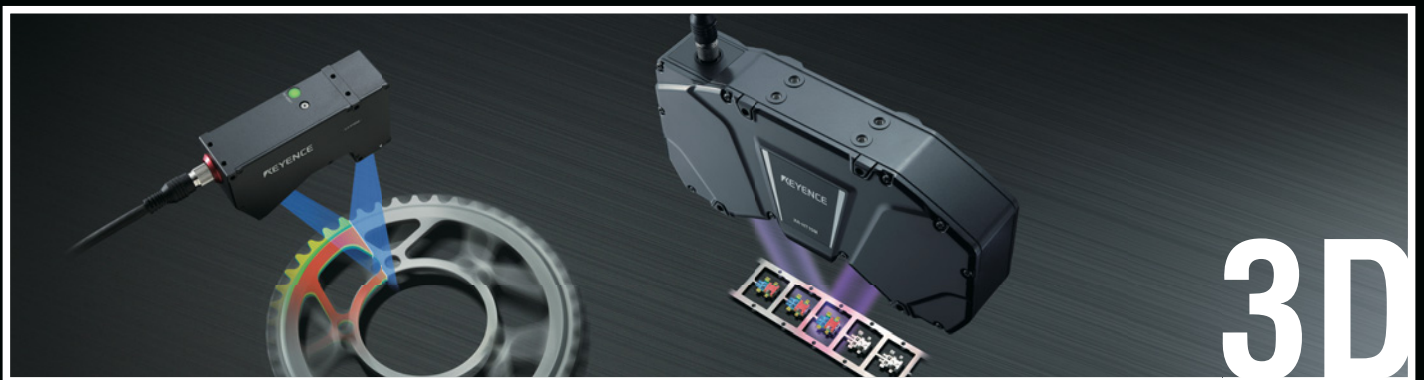


COMPREHENSIVE IMAGING TECHNOLOGY



VISION INSPECTION



SURFACE INSPECTION

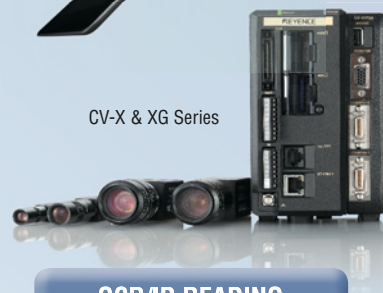


FLAW DETECTION

PRESENCE/ABSENCE



CV-X & XG Series

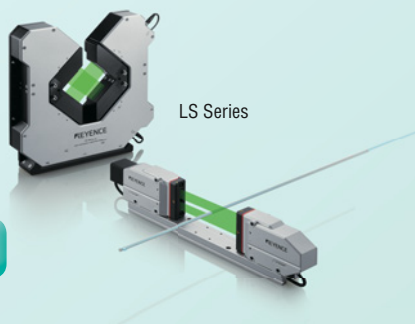


1D

COLOR CHECKING

2D

EDGE MEASUREMENT



1D/2D BARCODE



GAUGING



WIDTH

SENSOR MEASUREMENT

FLAW DETECTION



POSITIONING



XG Series

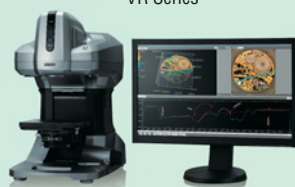
3D

ANGLE



LINE PROFILING

VR Series



MICROSCOPES

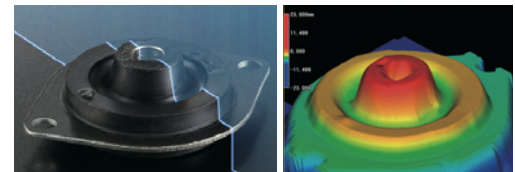
LumiTrax™

- Intelligent illumination
- Shape Image / Texture Image
- Ultra High-speed CMOS sensor



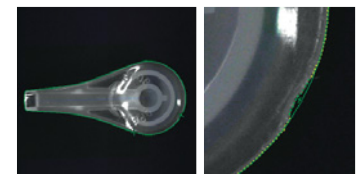
3D

- Height Measurement Tool
- 16-bit processing for height data
- Zero Plane specification



2D

- Up to 21MP camera resolution
- High-speed camera processing
- Multi-Camera System

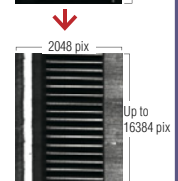
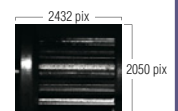
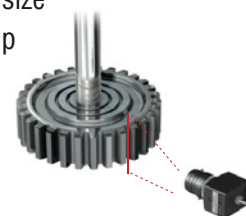


Original image

Detection of a flawed section

LINE SCAN

- 2k, 4k & 8k Line scan cameras
- Compact camera size
- Easy camera setup





LumiTrax™

CV-X

XG

NEW CAMERA LINEUP

	5 M pixel camera	2 M pixel camera	0.31 to 0.47 M pixel camera			
	16x 5MEGA DIGITAL  NEW Supports LumiTrax™	16x MEGA DIGITAL  NEW Supports LumiTrax™	16x HI-SPEED DIGITAL  NEW Supports LumiTrax™			
Model	CA-HX500M CA-HX500C	CA-HX200M CA-HX200C	CA-HX048M		CA-HX048C	
Specs	×16 speed monochrome/ ×16 speed color	×16 speed monochrome/ ×16 speed color	×16 speed monochrome		×16 speed color	
Capture range	2432 × 2040 pixels	1600 × 1200 pixels	784 × 596 pixels	512 × 480 pixels	784 × 596 pixels	512 × 480 pixels
Transfer time	27.6 ms* ¹ / 29.0 ms* ¹ 50.3 ms* ² / 52.4 ms* ²	11.6 ms* ¹ / 11.6 ms* ¹ 20.1 ms* ² / 20.2 ms* ²	2.9 ms* ¹ 5.2 ms* ²	1.7 ms* ¹ 2.8 ms* ²	2.9 ms* ¹ 5.3 ms* ²	1.7 ms* ¹ 2.9 ms* ²

*1 When using CV-X200 Series, XG-8000 Series + CA-EC80HX/EC80L

*2 When using the CV-X100 Series, CV-X200 Series, XG-7000 Series, XG-8000 Series + CA-EC80

LumiTrax™

A fusion of high-speed cameras with intelligent lighting and an advanced inspection algorithm

The LumiTrax™ system captures targets with a newly developed ultra high-speed camera and controlled partial lighting. The completely new capturing method analyzes multiple images acquired with lighting from different directions to create shape (surface irregularity) and texture (pattern) images. This simplifies imaging that conventionally required considerable time and experience by eliminating the influence of variations in workpieces and ambient environment that prevent stable inspection.

THE NEWLY DEVELOPED LumiTrax™ SYSTEM

Equipped with ultra high-speed CMOS sensor & dedicated control IC

CA-HX Series



Equipped with ultra high-intensity LED lighting and partial illumination control circuit

CA-DRW×X Series



Analyzes multiple images instantly to create shape and texture images

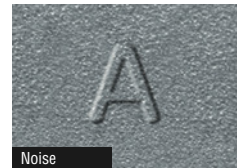
CV-X200 Series

XG-8000 Series

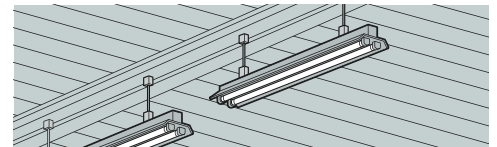


DIFFICULTIES IN CONVENTIONAL IMAGING

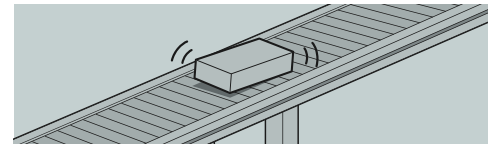
Various workpiece surface condition problems



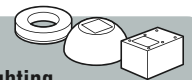
Variable ambient environment (ambient light)



Variable workpiece orientation due to conveyance conditions

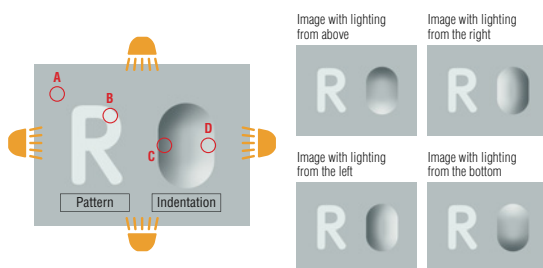


Trial and error needed to determine the optimum lighting

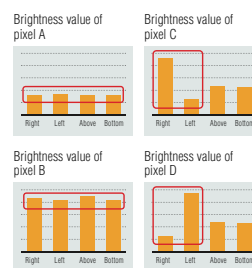


Principle of LumiTrax™ processing

1. Ultra high-speed capture with controlled partial lighting from different directions is executed.



2. Analyzes changes in the brightness value at each pixel, and separates shape (surface irregularity) and texture (pattern) for image processing.



Texture image

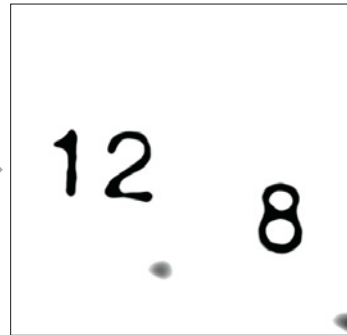
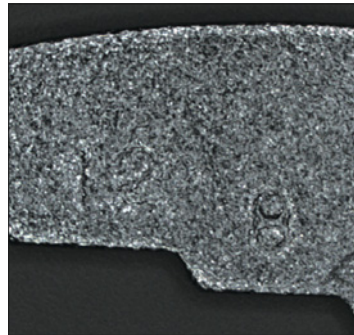


Shape image

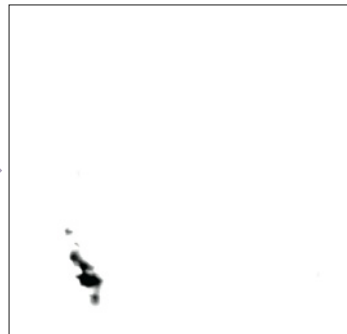
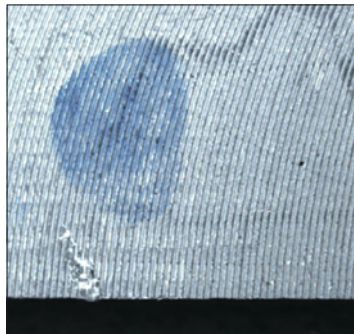


ETCHING
INSPECTION

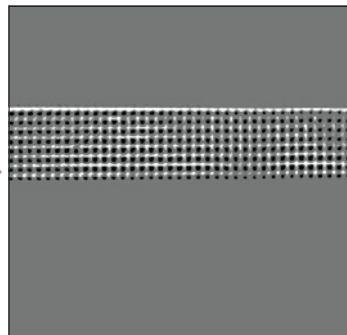
Inspects only the etching section that has surface irregularities while ignoring package printing.

STAMPED
CHARACTER
INSPECTION ON
METAL CASTING
SURFACE

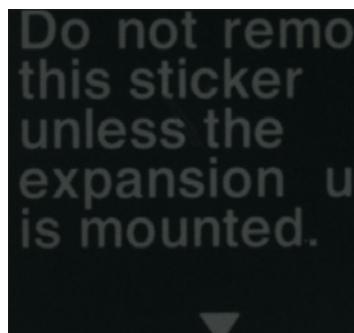
Highlights stamped characters on an uneven casting surface.

METAL
SURFACE
DEFECT
INSPECTION

Ignores residual washing fluid, stains, fine hairlines, etc. Detects only deep defects such as dents and chips.

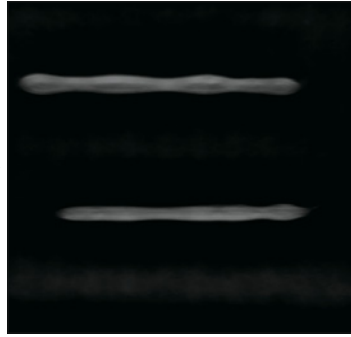
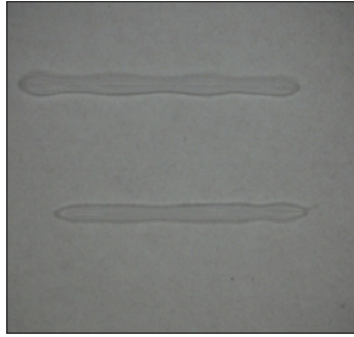
HEAT SEAL
WIDTH
INSPECTION

Captures and extracts surface irregularities in the seal which are difficult to capture based on the color and shade.

PRINTING
DEFECT
INSPECTION

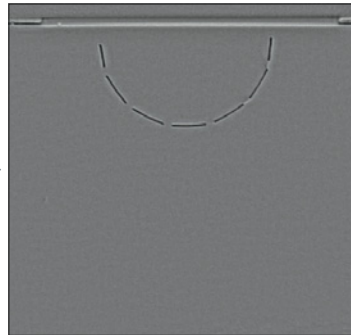
Extracts only defects and creates an image without being affected by complicated printing on the background.

**HOT GLUE BEAD
PRESENCE/
ABSENCE
INSPECTION**



Accurately extracts only the hot glue bead even when the background is the same color.

**PACKAGE
PERFORATION
PRESENCE/
ABSENCE
INSPECTION**

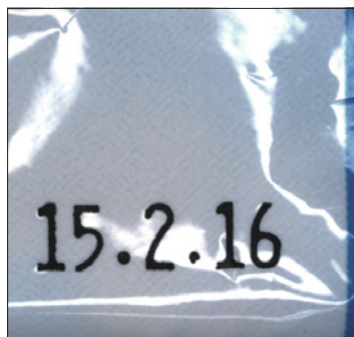


It is possible to inspect perforations even on a patterned background because only the shape is captured.

APPLICATION 2

Extracts only the texture (pattern) information while suppressing glare and ambient light

**PRINT
INSPECTION
ON FILM**



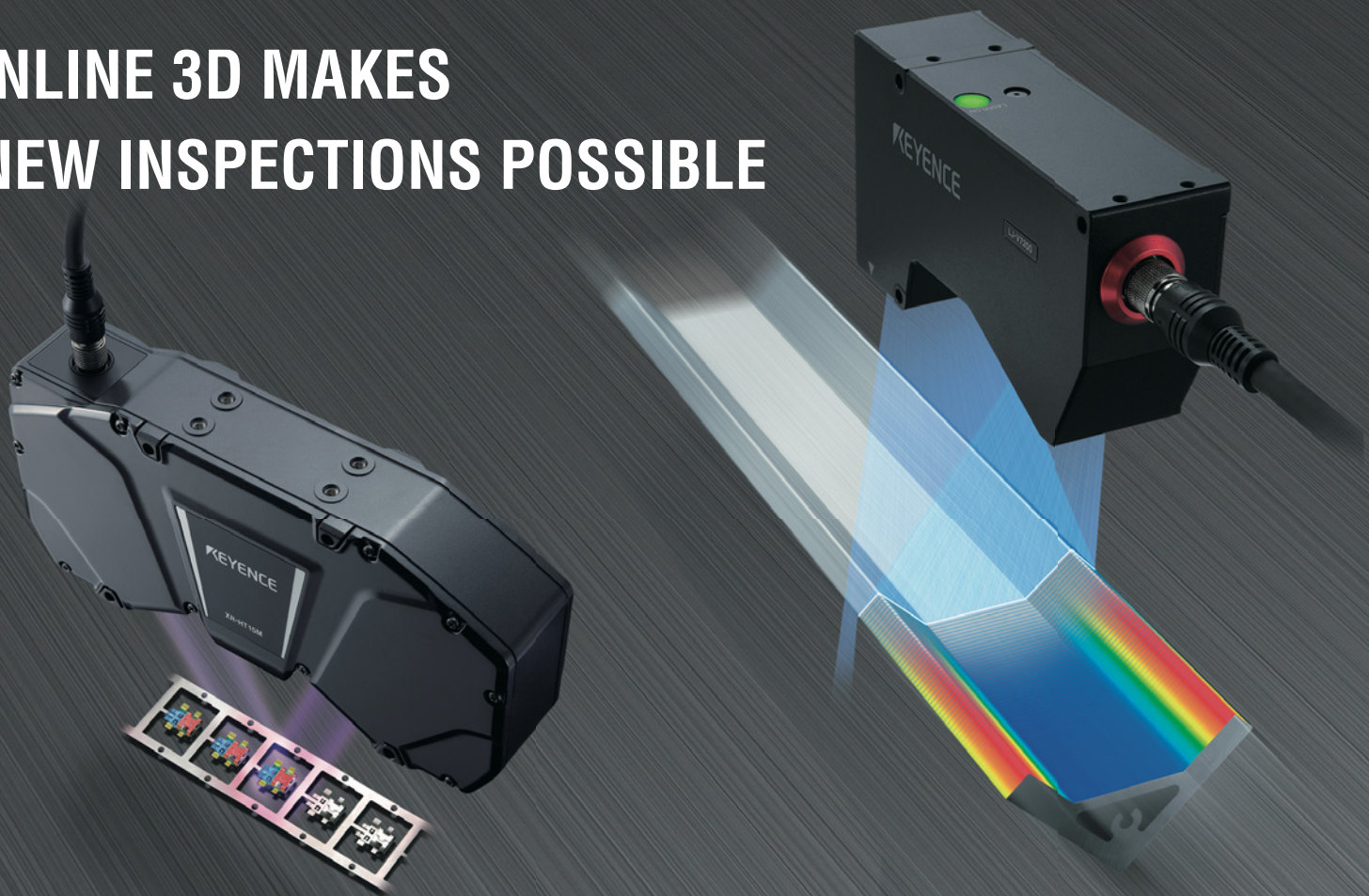
Stabilizes inspection by eliminating glare that has adverse effects on inspection.

**SEALING TAPE
PRESENCE/
ABSENCE
INSPECTION**



Allows stable inspection by canceling glare even in cases of sudden specular reflection due to the workpiece being tilted.

INLINE 3D MAKES NEW INSPECTIONS POSSIBLE



3D SYSTEM

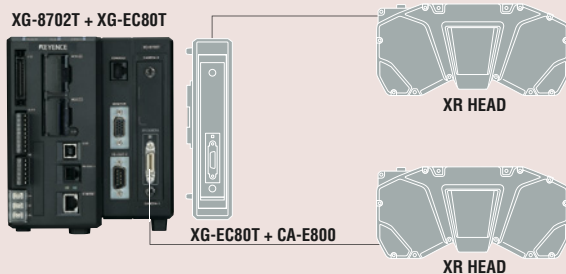
CV-X

XG

CONNECTIONS FOR 3D INSPECTION

FOR XG + XR

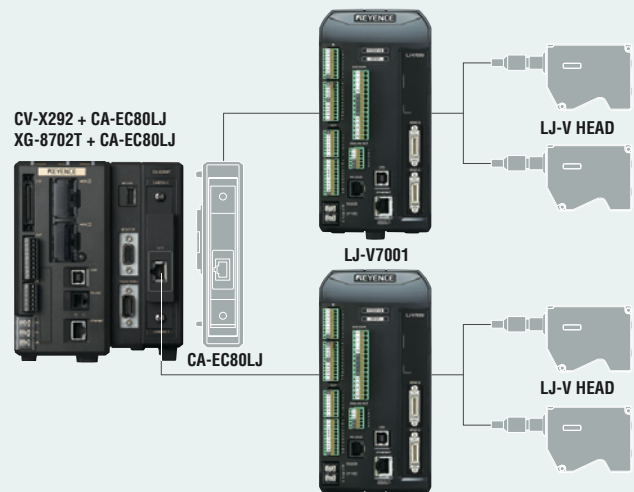
Combination of XG-8702T and XG-EC80T



* Line scan and 21 megapixel cameras cannot be connected.
XR and LJ-V cannot be connected at the same time.

FOR CV-X & XG

Combination of XG-8702T and CA-EC80LJ
CV-X292 and CA-EC80LJ

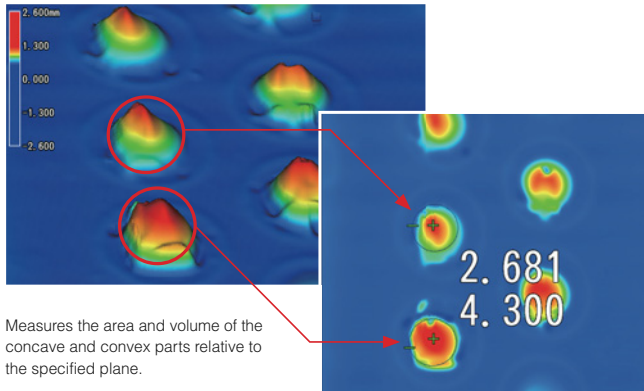


*When the LJ-V is connected, 21 megapixel cameras cannot be connected.

HEIGHT MEASUREMENT TOOL

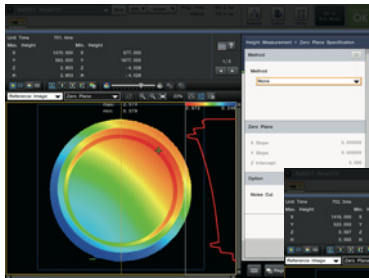
Measures dimensions such as minimum/maximum heights, convex/concave areas and volumes based on 3D data. Flexible measurement is ensured by specifying any plane within the screen as a zero plane.

AREA/VOLUME MEASUREMENT

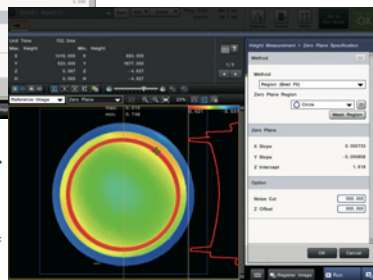


ZERO PLANE SPECIFICATION

Before zero plane specification



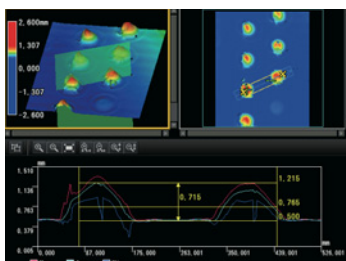
After zero plane specification



Since a zero plane can be specified as a reference for height measurement, stable measurement is ensured, even if the targets change orientation.

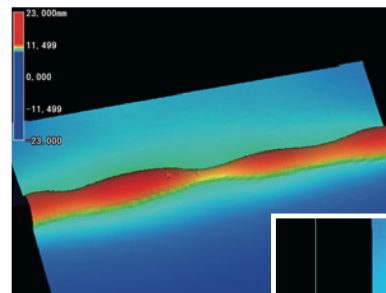
3D OBSERVATION

On a captured 3D image, a 2D profile can be displayed between any two specified points. This allows the user to verify the inspection range and settings instantaneously.



TREND HEIGHT MEASUREMENT TOOL

Executes multiple height measurements across one region. It is possible to find the maximum/minimum values and to calculate the best-fit circle or plane among the peak values calculated for each small cross-sections of the main region.



In this figure, locations along a bead of sealant in which the height is insufficient are being detected stably from multiple pieces of height information.

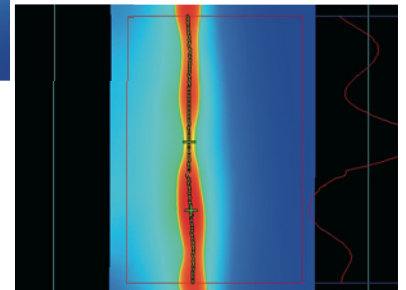
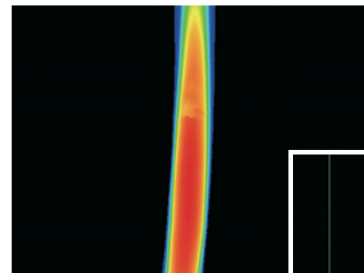
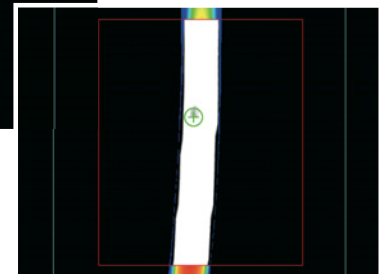


IMAGE REGION GENERATOR

Converts the specified height range into an inspection region. Even if a workpiece changes in shape, inspection will automatically occur only on surfaces within the defined height range.

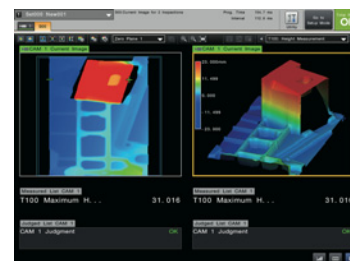


The area is created automatically according to the shape of the curved or bent cable.



CONTROLLER 3D DISPLAY

For improved visualization, a 3D image can be displayed as an operation screen or together with processed images in a multi-screen display.



21 MEGAPIXEL CAMERA

THERE IS NO SUBSTITUTION FOR RESOLUTION

A 21 megapixel image, with a resolution of 5104 × 4092, can be captured at a rate of 9 FPS (110 ms). This allows for inspection of minute defects in a wide field-of-view that are impossible to detect with lower resolution cameras.



2D AREA CAMERA

CV-X

XG

NEW CAMERA LINEUP

	NEW 21M pixel camera	5M pixel camera	2M pixel camera Series			0.31M pixel camera Series		
	16x 21MEGA DIGITAL	11x 5MEGA DIGITAL	7x MEGA DIGITAL	MEGA DIGITAL	SUPER-SMALL DIGITAL	7x HI-SPEED DIGITAL	HI-SPEED DIGITAL	ULTRA-SMALL DIGITAL
								
Model	CA-H2100M CA-H2100C	CV-H500M XG-H500M CV-H500C XG-H500C	CV-H200M XG-H200M CV-H200C XG-H200C	CV-200M XG-200M CV-200C XG-200C	CV-S200M XG-S200M CV-S200C XG-S200C	CV-H035M XG-H035M CV-H035C XG-H035C	CV-035M XG-035M CV-035C XG-035C	CV-S035M XG-S035M CV-S035C XG-S035C
Specs	×16 speed monochrome/ ×16 speed color	×11 speed monochrome/ ×11 speed color	×7 speed monochrome/ ×7 speed color	Monochrome/ Color	Compact monochrome/ Compact color	×7 speed monochrome/ ×7 speed color	Monochrome/ Color	Compact monochrome/ Compact color
Capture range	5104 × 4092 pixels	2432 × 2050 pixels	1600 × 1200 pixels	1600 × 1200 pixels	1600 × 1200 pixels	640 × 480 pixels	640 × 480 pixels	640 × 480 pixels
Transfer time	109.9 ms	61.2 ms	29.2 ms	58.5 ms	58.5 ms	4.7 ms	16.0 ms	16.0 ms

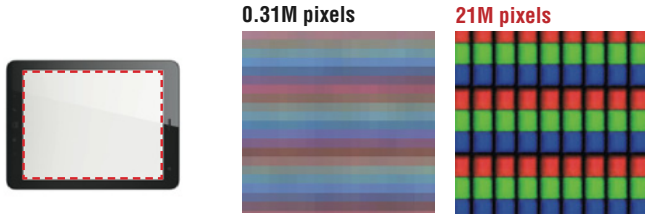
THE 21 MEGA PIXEL CAMERA PROVIDES ULTRA HIGH-ACCURACY FOR LARGE INSPECTION AREAS

STABLE DETECTION OF SLIGHT DEFECTS

The same field of view captures a more accurate image

Inspection of LCD pixel arrays

The same target area within the red frame captured by each camera type.

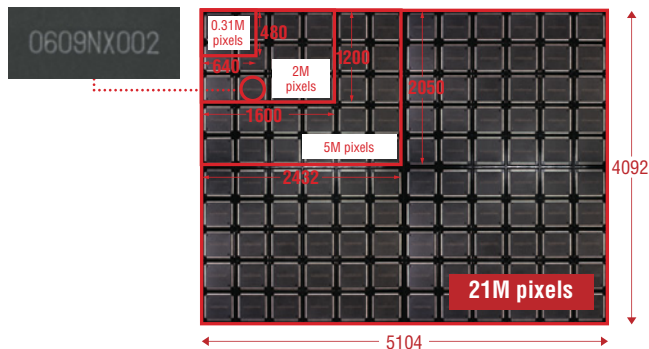


CAPTURE THE TARGET WITH A WIDER FIELD-OF-VIEW

The same accuracy over a wider area

Print inspection of integrated circuits on a tray

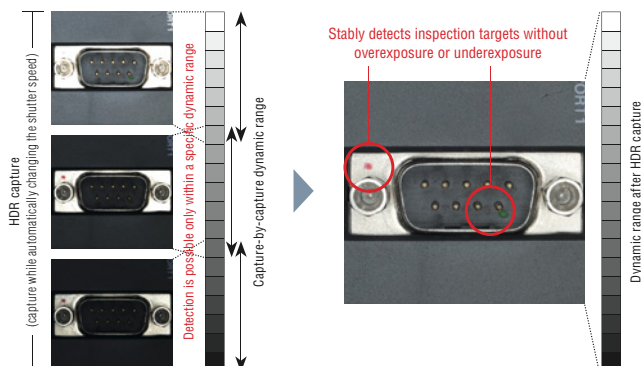
The field-of-view adjusted to make the print resolution the same for each camera type.



HDR

High dynamic range captures quality images on difficult targets

Captures multiple images while automatically changing the shutter speed and combines them at high speed to generate images without overexposure or underexposure. Images ideal for processing can be captured even when parts have uneven glossiness or intensity due to variations in surface conditions or environmental changes.



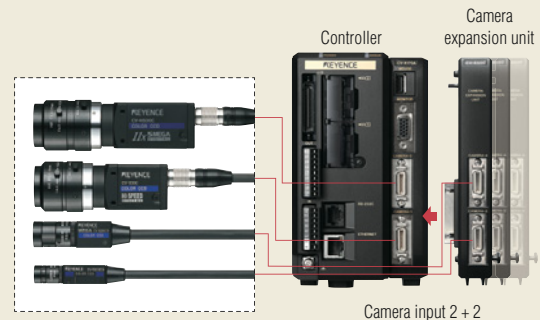
MULTI-CAMERA, SIMULTANEOUS IMAGE ACQUISITION SYSTEM

A multitude of camera types can be mixed for use. For example, it is possible to attach a monochrome camera and a color camera to a single controller unit. Also, by connecting a camera expansion unit, it is possible to connect up to two 21M pixel cameras, four 5M pixel or lower cameras*, 4 laser heads, or 2 laser head plus 2 area cameras. Because simultaneous image acquisition and simultaneous processing can be performed for all camera combinations, this system has the flexibility to support future additions and changes to inspection specifications.

(*The expansion unit can be connected to the CV-X252F/CV-X272F/CV-X292F/CV-X152F/CV-X172F/XG-7002/XG-7502/XG-7702/XG-8002/XG-8502/XG-8702)

MULTI-CAMERA SYSTEM

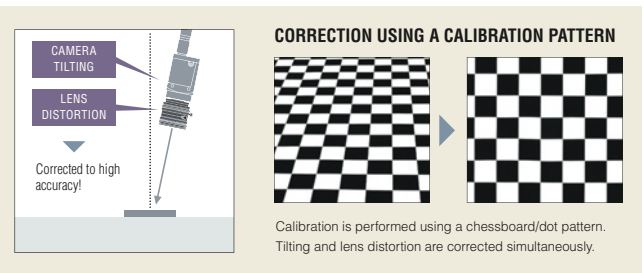
Connect up to 4 cameras from a selection of 22 cameras



CALIBRATION

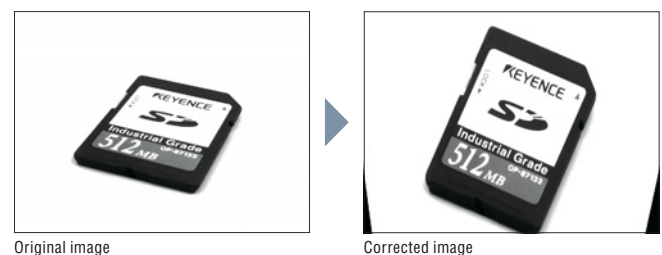
Removes effects of lens distortion or camera tilting

Removes effects due to installation and hardware related factors such as camera tilting and lens distortion. This function offers consistent capture conditions.



Corrects tilting

Corrects camera tilting that may occur during installation. This is also effective when a camera is installed at an angle due to installation space restrictions.





INTERCHANGEABLE CAMERA SYSTEM

MACHINE VISION INSPECTION

SUPPORTS LINE SCAN & AREA CAMERAS

An image processing system with the ultimate camera selection

LINE SCAN CAMERA

XG

A USER-FRIENDLY DESIGN THAT MAKES IT EASY TO UNDERSTAND THE INSTALLATION CONDITION AT A SINGLE GLANCE



Model	XG-HL02M
Applicable lens	1 in. C-mount
Number of pixels	2048
Max. expanded image size	2048×16384
Scan speed	24 μs/line
Pixel clock	100 MHz (8× transfer)



Model	XG-HL04M
Applicable lens	1 in. C-mount
Number of pixels	4096
Max. expanded image size	4096×16384
Scan speed	24 μs/line
Pixel clock	200 MHz (16× transfer)

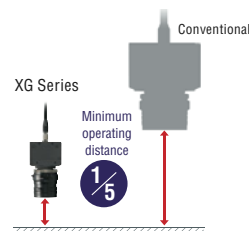
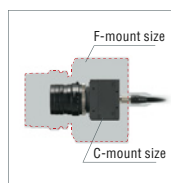


Model	XG-HL08M
Applicable lens	2 in. (M40 P0.75 P0.03*)lens*
Number of pixels	8192
Max. expanded image size	8192×8192
Scan speed	45 μs/line
Pixel clock	200 MHz (16× transfer)

*Supports F-mount conversion adapter

UNIQUE SUPPORT FOR C-MOUNT LENSES WITH A HIGH-DEFINITION PIXEL COUNT OF 4096 PIXELS

The industry's smallest line scan camera is achieved with the adoption of a high-sensitivity, compact CMOS image sensor. By supporting C-mount lenses, the line up of available lenses has been greatly expanded. This results in high flexibility in the installation conditions allowing mounting in spaces that were impossible with conventional line scan systems.



Support for C-mount lenses allows for the use of lenses with short focal lengths. The minimum operating distance has been reduced to approximately 1/5 of conventional systems.

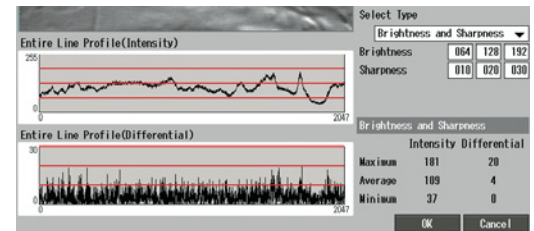
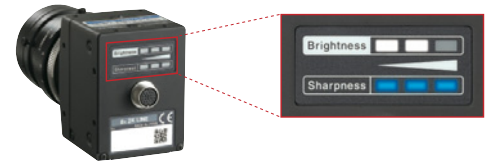
EXAMPLE

Comparison of the WD required for a field of view of 100 mm **3.94***

UNDERSTAND OPTICAL AXIS CONSISTENCY AT A SINGLE GLANCE LED INDICATOR Industry's first

The typically difficult task of obtaining the correct camera mounting is made easy using visual LED indicators right on the camera that show the level of light intensity and sharpness being received. This drastically reduces the amount of time needed for line scan camera installation.

LED indicators on the back of the camera display the focus and intensity information of the image currently being captured using a 3-level indicator. The individual threshold levels can be user specified in order to obtain the best results under the specific application conditions.

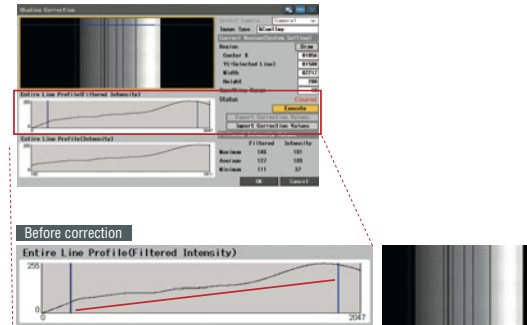


WAVEFORM VIEWER

Adjust for variations of received light intensity in the camera

Uneven brightness is typical when performing wide range image capture with line scan cameras. The built-in waveform viewer on the XG-8000 displays the intensity shading information of the image captured by the camera.

The shading correction function of the XG can be used to adjust for an uneven lighting condition across the field of view. The shade correction is performed in the camera before the image transfer so it does not have an effect on the processing time which is very important with high-speed production lines.



TARGET CLASSIFICATION FUNCTION

Desired targets or unwanted flaws can be detected using the variety of inspection tools that are available on the XG Series. The detected targets can then be automatically classified and sorted based off user-defined conditions. The thumbnail image of each defect can be displayed and output to an SD card or a FTP drive. The mapping display allows the confirmation of detected target positions even if the work piece is a curved shape or large sheet.

The detected targets are automatically extracted to a specified size and displayed as thumbnail images.

The mapping results for each classification condition are displayed in the viewer.

The measured data for each detected target is displayed in the results list.



LINE SCAN CAMERA CONNECTIVITY FOR INSPECTION OF WEB OR ROTATING TARGETS

Line scan cameras can be connected to the XG-8000L Series. Compared to area cameras that capture the entire image in one capture, line scan cameras build an image by capturing one line of pixels at a time. This allows even lighting of hard to light targets like webs and cylindrical parts which makes inspection much easier. The 8K line scan camera can produce an image of up to 67 megapixels.



Inspection of foreign objects, flaws, or pinholes on films or sheets can be achieved even on high-speed production lines.



Defects on a metal roller surface can be inspected accurately by using a line scan camera.

CV-X Series

CV-X

POWER MEETS SIMPLICITY



AUTO-TEACH INSPECTION TOOL **COLOR**

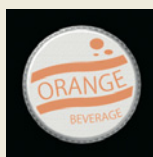
An inspection tool that learns by simply running good parts.

The newly incorporated Auto-Teach Inspection Tool learns individual differences in good parts to determine an acceptable range of variations and recognizes the parts that differ as defective. These algorithms eliminate the common obstacles to successful on-site programming. Set-up is performed by simply running good parts, eliminating the need for highly-experienced vision integrators and complicated programming. This is an inspection tool that makes it possible for anyone to achieve and maintain a stable inspection.



NEW ALGORITHM!

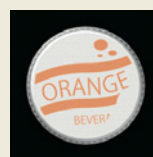
Parts that are different from the learned good parts are detected as bad!



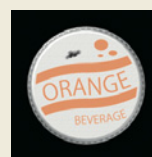
✓ Good part



✗ Different type



✗ Incomplete printing

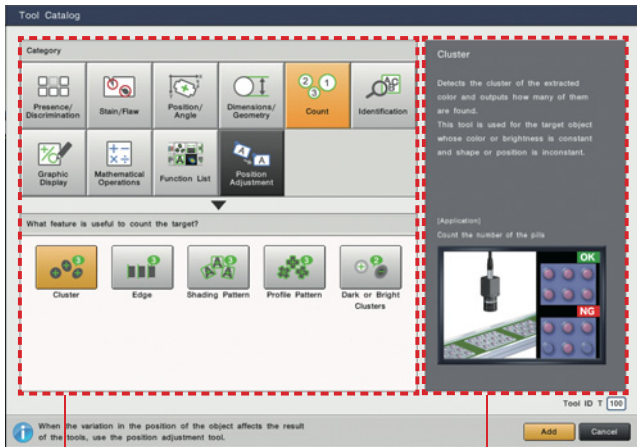


✗ Flaw

Defective parts not expected at the time of setting can also be detected.

TOOL SELECTION CATALOG BASED ON APPLICATION

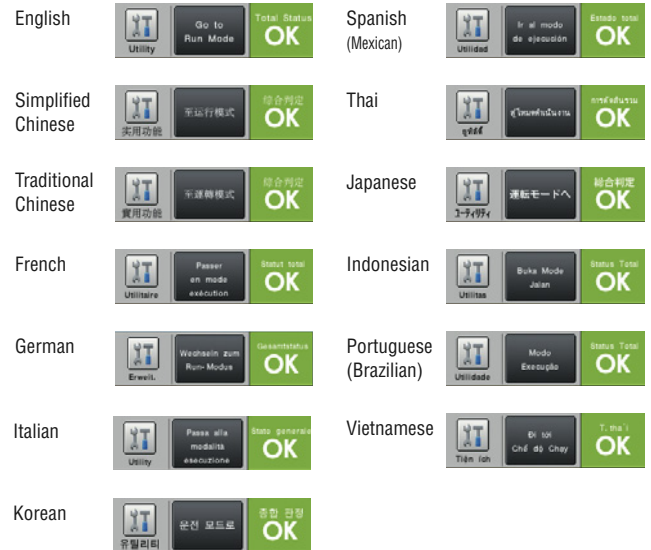
Just select the desired application type, instead of the traditional tool



TOOL CATALOG

APPLICATION NAVIGATOR

MULTI-LANGUAGE INPUT SYSTEM INCORPORATED



USER INTERFACE

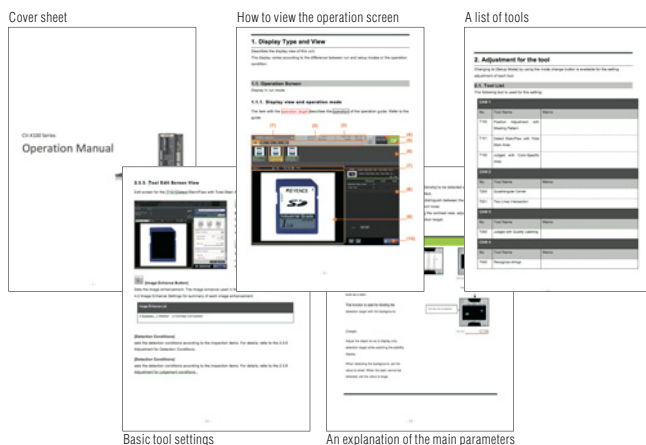
No complicated customization is required. Just select a display template

To greatly simplify the customization of operation screens and improve visualization of the process, an operation screen selection guide is incorporated along with many custom functions.



CUSTOMIZED USER MANUAL FUNCTION

Example of created manual contents



MULTIPLE LANGUAGE SUPPORT

User manuals can be created in ten languages according to the languages of the programs.

MS WORD OUTPUT

Outputs in Microsoft Word format. It is possible to freely delete unnecessary parts, and add comments.

TOOL SETTING TIPS

It is possible to insert tips describing how each tool's parameter is typically adjusted.

TIME SAVING

Many man-hours are saved when creating a customized user manual for the inspection.

XG Series

XG

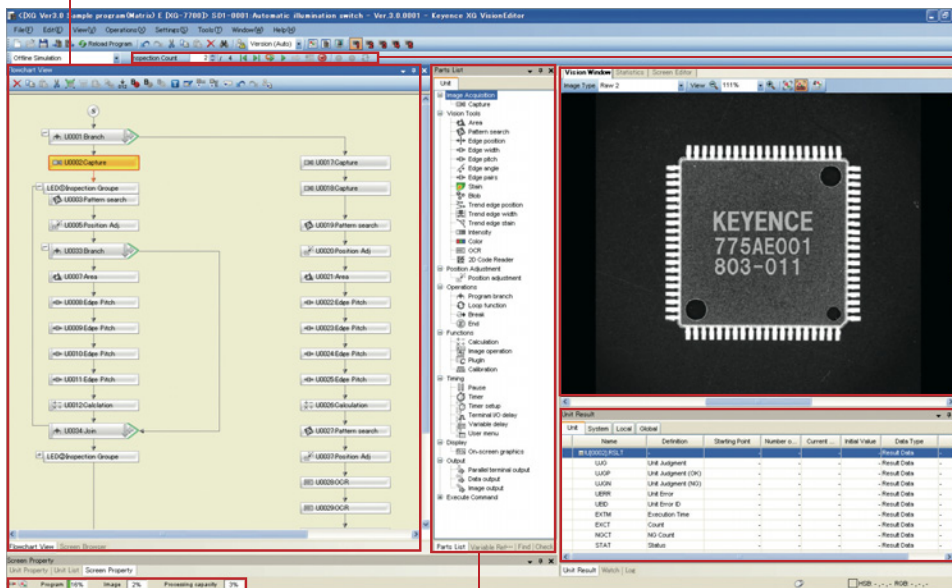
THE POWER TO TAKE YOU AHEAD



SEAMLESS DEVELOPMENT, ENABLING FAST, POWERFUL, YET EFFICIENT, APPLICATION SOLUTIONS

FLOWCHART VIEW

By dragging-and-dropping processing units from the parts list into this section, you can easily construct an image processing flowchart. Debugging is easy as errors are highlighted and the usage of variables can be easily seen.



SIMULATION TOOL BAR

Simulations can be run using images taken from a connected controller, held on a PC or across a network. Options for continuous program operation, step-by-step or a single iteration are possible too.

VISION WINDOW

In addition to displaying captured images and setting up a GUI, you can confirm in real-time the processing results of filters or inspections tools

UNIT RESULTS

All aspects of result and measurement data from units and variables can be viewed here. The unit results section is also equipped with a watch view allowing the display of only the variables or measurement values you wish to see. Helping allow for easy confirmation and analysis of results. In the unit results you can also conduct editing of the variables making dialing in and changes very easy.

RESOURCE DISPLAY

Shows the resources used in different areas of the controller from the settings made.

PARTS LIST

Lists everything from inspection tools (such as edge detection and pattern matching) to control processing (like conditional-branching, timers, and loops). By dragging-and-dropping items from this list to the flowchart, the image processing flowchart can be easily constructed.

CONTROL PROCESSING

The XG Series provides control processing including conditional branching and looping essential to program flexibility and customization. This allows for flexible image processing based on changing conditions. Timing controls such as processing delays or waiting on terminal/operator interaction are also available. The vision flowchart can be created to interact with different machine and control processes allowing the XG Series to easily become an embedded part of the overall machine and system.

Control processing definitions

Branch - Join	Based on input value branch flowchart accordingly (up to 64 points)
Loop	Repeat unit operation until end or break condition
Loop End	Stop loop
Break	Break loop and exit

Timing control definitions

Pause	Pause for a specified time
Timer	User specified timer
Timer setup	Pause until specified user time finishes
Terminal I/O Delay	Pause until changes in specified I/O occur
Variable Delay	Pause according to the results from selected variable compared with a selected reference value
Wait dialog	Pause until changes made by an operator

VARIABLE PROCESSING

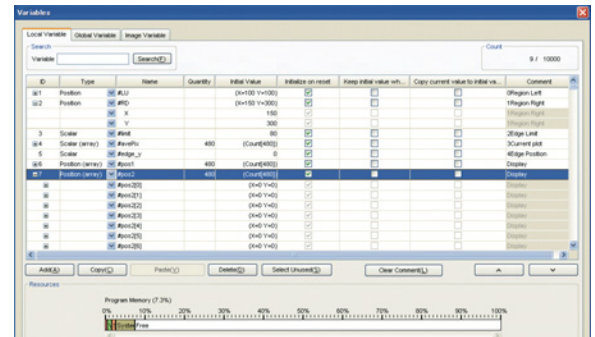
A wide range of single and array type variables can be defined (numerical, position, line & circle). Variables are not limited to a single program and can be set for local, system or global use. The re-writing and initialization of each variable can be individually set depending on its intended operation. By using the variable setting utilities, even such tasks as the batch substitution of an allocated variable name or searching for a specific variable are made easy.

VARIABLE COMMENT FUNCTION

Each variable can be assigned comments indispensable to debugging and program review. So as the flowchart becomes large and complicated, variable selection becomes simple.

```
FOR @i = 0 TO 479
  #pos2[@i].X = #avePix[@i+1] / 2
  #pos2[@i].Y = #avePix[3Current plot]
NEXT
#disp_limit = #limit / 2
```

Comments displayed when the cursor hovers over the variable

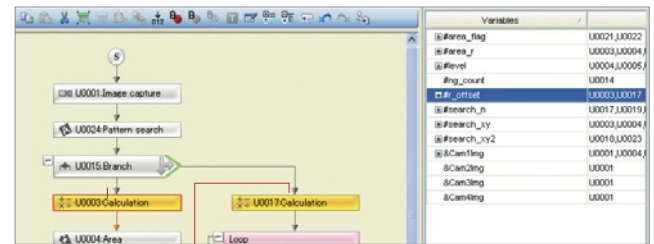


Variable setting screen

VARIABLE REFERENCE LIST INDICATOR

Quickly see and locate where variables are used

The XG VisionEditor software also incorporates a variable reference list that allows the quick verification of exactly which variables are being used, and where. In addition to the unit ID being shown next to the variable, the unit can be made to flash in the flow view by simply clicking on the variable. This makes it very easy to see all the locations where a variable is referenced and used.



Variable list

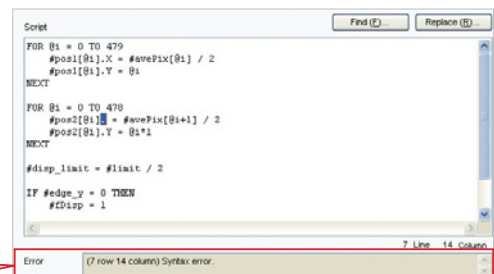
By selecting a variable, all reference destination units on the flow view will flash.

FLEXIBLE CALCULATION & SCRIPT BASED PROCESSING

Calculations are also essential in customization, and the XG Series allows for over 100 different functions and commands to be used. Calculations and script can be quickly created by dragging and dropping in functions from the parts list. Direct typing, cut, copy and paste are also supported, along with an auto-complete function to help minimize input errors. Script based design is also possible making complex calculations easy to break out and understand.

Automatic call out error checking function

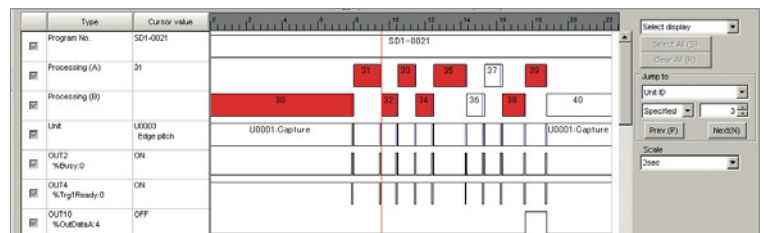
Up to 5000 characters per single calculation



TRACE LOG FUNCTION

Easily troubleshoot I/O and signal processing

The trace log function is a great tool to help with processing and I/O troubleshooting. Giving integrators and developers the capability for checking and monitoring the sequencing of units being processed, I/O signals and commands. The results display can be split and the processing time for each unit along with other information can be easily displayed. The trace log can also be saved and be used at a later date as a reference guide.



CA Series

Vision System Peripheral Equipment



FLEXIBLE LIGHTING CONTROL WITHOUT EXCESSIVE WIRING

LED Light Controller CA-DC30E/CA-DC21E

The lighting controller is connected directly to the main vision controller. Up to 4 light controller units can be connect at once.*¹ Each light controller has 2 connections for lights so up to 8 individually controllable lights can be connected together.

*¹ This applies to the case when the CA-DC21E is used. When the CA-DC30E is used, up to 2 modules can be connected (additionally, 2 CA-DC21E units can be mixed in).



DIVERSE ILLUMINATION LINEUP THAT SUPPORTS A WIDE RANGE OF INSPECTIONS



Ring lights (direct)



Ring lights (multi-angle)



Square lights (multi-angle)



Bar lights



Dome lights



Back lights



Coaxial lights (on-axis)



Spot lights



Low angle lights



Square lights (direct)



Line lights



LED light controller

LENS LED LIGHTING SELECTABLE ACCORDING TO THE CAMERA TYPE AND REQUIRED ACCURACY



Standard lenses



High-resolution,
low-distortion lenses



Telecentric macro lenses



Super-small camera,
dedicated lenses



High-resolution lenses
for line scan cameras



High-resolution,
large-format, C-Mount lenses

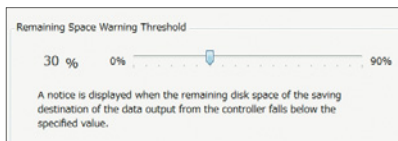
VisionDatabase

Easy long-term storage and use of image inspection data



REMAINING STORAGE SPACE WARNING FUNCTION

Monitors storage failures caused by insufficient free space on the storage destination medium. Issues a warning when the storage amount exceeds the allowable value.



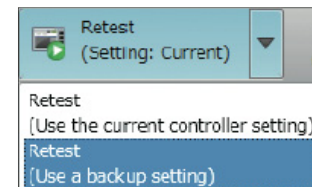
COMMENT FUNCTION

Users can make comments linked to image data. This function supports searching, and is useful when debugging.

Comment	Count	Total Status
NG Image	3	NG
	8	NG

RETEST FUNCTION*

Editing and check result data, which helps find optimum settings.



* Separate installation and activation of Simulation-Software required.

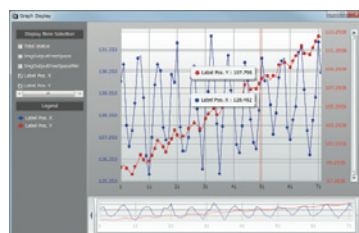
LOT NUMBER AND SERIAL NUMBER LINK FUNCTION

Links image data to external data such as serial numbers for data management and searching.

Total Status	Lot Number	Serial ID
NG	FCL0/B	OR_14_0028
OK	TCL0/A	OR_14_0001

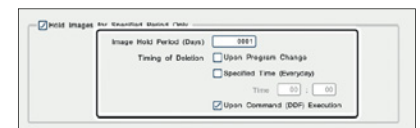
GRAPH DISPLAY FUNCTION

Displays up to 100000 data sets in a graph at one time. Perfect for understanding trends in data.



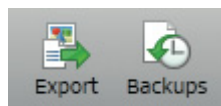
PERIODIC AUTOMATIC DELETE FUNCTION

Deletes image data automatically based on specified conditions, freeing users from troublesome maintenance.



BACKUP/EXPORT SETTINGS FUNCTION

Makes a backup of inspection settings. These functions support retesting with backup images and export of edited inspection settings.



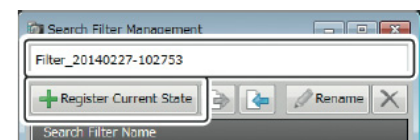
EXCEL EXPORT FUNCTION

Outputs inspection data to Excel with links to image data.

Product	Label Pos. X	Label Pos. Y	&Camt Img
OK	129.810	98.0189	14542 &Camt Img
OK	130.579	99.0949	14575 &Camt Img
OK	127.812	98.694	14678 &Camt Img

SEARCH/CUSTOM FILTER FUNCTION

Registers original conditions to enable smooth search of desired data.



Database software
CA-H1DB



Add-on card for
controller function
CA-AD1



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SAFETY INFORMATION

Please read the instruction manual carefully in order to safely operate any KEYENCE product.

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